REMARKS

The Office Action mailed on August 22, 2003, has been reviewed and the comments of the Patent and Trademark Office have been considered. Prior to this paper, claims 1, 2, 4 to 8, 10, 12 and 14 to 24 were pending in the present application. By this paper, Applicant does not cancel or add any claims. Therefore, claims 1, 2, 4 to 8, 10, 12 and 14 to 24 remain pending in the present application.

Applicant respectfully submits that the present application is in condition for allowance for the reasons that follow.

Entry of the Amendments to Claim 20 is Respectfully Requested

As seen above, Applicant proposes to amend claim 20. Applicant recognizes that the present Office Action is a Final Office Action. However, the amendments to claim 20 simply add the recitation that the fiber web filters may function *as surface combustion members*. Applicant notes that the recitation regarding surface combustion added to apparatus claim 20 *is present in independent method claims 1 and 2*. Therefore, Applicants submit that no additional art search is necessary, as a result of the amendments to claim 20. Entry of the amendments to claim 20 is respectfully requested.

Rejections Under 35 U.S.C. §102

Claims 1 and 16 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,152,978 to Lundquist. In particular, the Office Action asserts on page 2 that Lundquist discloses using a membrane as a surface combustion burner membrane during a regeneration period. Applicant respectfully traverses this assertion for at least the following reasons.

Lundquist discloses a soot filter for removing soot from gas from an engine, particularly from bleed air from a gas turbine such an auxiliary power unit for an aircraft (col. 2, lines 8 to 11). The Lundquist filter 70 includes a hollow, disc-shaped filter element 71 containing a filter medium and having a central bore, an inner ring 75 disposed in the central bore of the filter element 71, and an outer ring 76 surrounding the outer periphery of the filter

element 71 (col. 6, lines 35 to 40). The filter medium employed in the filter element 71 is preferably made of a high-temperature, corrosion resistant material which is capable of effectively removing soot particles at very low flow rates and high temperatures, such as sintered metal filter medium (col. 6, line 63 to col. 7, line 10). However, the filter medium is selected to be sufficiently economical that the filter element 71 can be discarded when it becomes clogged (col. 2, lines 17 to 19). Thus, the Lundquist filter is not used as a surface combustion burner membrane to burn-off filtered particles during a regeneration period as claimed, as it is specifically designed to be discarded when it becomes clogged. As such, Lundquist fails to disclose or suggest all of the features of claim 1, and thus the claims that depend from claim 1.

Withdrawal of the rejection under 35 U.S.C. §102(e) over Lundquist is respectfully requested.

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Claims 20 to 24 stand rejected under 35 U.S.C. §102(e) as being anticipated by Hirota (USP 5,974,791). Applicant has amended claim 20, as seen above, and respectfully submits that claims 20-24 are allowable.

Claim 20 (the claim from which claims 21-24 depend), now recites that the first and second fiber web filters variously "function as a . . . surface combustion burner membrane." In an exemplary embodiment, the premixed diesel and air burns on the surface of the fiber web after ignition beyond the web.

In contrast, the regeneration mode of the filters of the Hirota reference utilizes an electrical regeneration regime where the filter material is heated via electrical resistance until above the ignition temperature.

> When the relay is closed, electricity is supplied to the body of the DPF and the whole body of the DPF is heated by electric current [and] . . . the temperature of the DPF rises to a temperature required for the SO_x recovery operation (for example, about 500 degrees C.) in a short time. When the reducing agent is supplied to the DPF, the NO_x absorbent in the DPF is exposed to a high temperature in a rich air-fuel ratio atmosphere and, thereby, SO_x absorbed in the NO_x absorbent is released from the absorbent in the form of SO_2.

(Hirota, column 8, lines 13-24, emphasis added.) That is, in contrast to Applicant's invention, Hirota utilizes electrical regeneration and thus does not teach or suggest the utilization of fiber webs as **surface combustion burner membranes** during the regeneration period. In contrast, the present invention has the great advantage that regeneration of the filters can be obtained without the use of electricity, and thus no electrical contacts, no electrical insulation, and no battery loss (or high power) is required. Since Hirota does not teach each and every element of claims 20-24, these claims are allowable.

Claim Rejections Under 35 U.S.C. §103(a)

In the Office Action, Claims 2, 10 and 17 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hirota in view of Lundquist, claims 4-7 and 14-15 were rejected as obvious over Lundquist in view of Sato (USP 4,535,588), claim 8 was rejected over Lundquist in view of the same when further combined with Shinzawa (USP 4,567,725), claim 12 was rejected in view of Lundquist when combined with Hirota and Shinzawa. Additionally, claim 18 is rejected in view of Lundquist when combined with design choice, and claim 19 is rejected in view of the same when further combined with Hirota.

Regarding claims 2, 10 and 17, Applicants respectfully traverse the rejection as to the claims above, and submit that these claims are allowable for at least the reason that the prior art references, even after combination, do not teach or suggest all the limitations of claim 2, as is required by MPEP § 2143.

Claim 2, the independent claim from which claims 10 and 17 depend, recites that at least one of the membranes is used "as a **surface** combustion burner membrane during a regeneration period." In an exemplary embodiment, the premixed diesel and air burns on the surface of the stainless steel fiber web after ignition beyond the web.

In contrast, again as noted above, the regeneration mode of the filters of the Hirota reference utilizes an electrical regeneration regime where the filter material is heated via electrical resistance until above the ignition temperature. Hirota does not teach surface combustion and Lundquist does nothing to remedy these deficiencies. Indeed, as note above,

Lundquist is directed towards a disposable filter, and thus teaches away from any kind of regeneration.

Claim 12, which was rejected in view of the above combination when combined with Shinzawa is also allowable, as Shinzawa does not remedy the deficiencies of Lundquist either. Therefore, claim 2, 10, 12 and 17 are allowable.

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Claims 4-7 and 14-15 depend from claim 1, and thus Applicants respectfully traverse the rejection for the reason that Lundquist does not disclose or suggest each and every element of claim 1, as noted above, and Sato does not remedy the deficiencies of Lundquist. Thus, these claims are allowable. Claim 8 depends from claim 4, and as Shinzawa does not remedy the deficiencies of Lundquist, Claim 4 is likewise allowable

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Claim 18 depends from claim 1, and thus is allowable since claim 1 is allowable. Claim 19 depends from claim 2, and thus is allowable since claim 2 is allowable.

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In sum, even if the first requirement of MPEP § 2143 is satisfied, the third requirement of MPEP § 2143 is not satisfied in the Office Action, since the AAPA does not teach each and every element of the present invention. Thus, the present claims are allowable.

Conclusion

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

If Applicant has not accounted for any fees required by this Amendment, the Commissioner is hereby authorized to charge to Deposit Account No. 19-0741. If Applicants

have not accounted for a required extension of time under 37 C.F.R. § 1.136, that extension is requested and the corresponding fee should be charged to our Deposit Account.

Examiner Tran is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

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